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Estimation of Compensation and Prevalence of Chronic Complications of Type 1 DM in Children According to the Screening Data

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Objective and hypotheses: The work was initiated to comparatively assess degree of compensation and prevalence of complications of type 1 DM in children in Uzbekistan from 1998 to 2012 according to the screening data. **Method:** 950 children (coverage of 80.3%) with type 1 DM were screened in 2012 within the WDF grant 'Children's Diabetes in Uzbekistan', the degree of compensation and prevalence of type 1 DM chronic complications were compared with those obtained for 618 children (coverage of 98%) examined in 1998. Compensation level was estimated according to ISPAD criteria (2011). **Results:** In 2012 target levels of therapy in children (HbA1c <7.5%) were reached in 24.3% comparing with 16% in 1998, mean level of HbA1c decreased from 12.7 to 9.6% ($P < 0.001$). The comparative analysis showed significant decrease in prevalence of physical retardation by 3.45 times in children ($P < 0.0001$) and decrease of sexual retardation by 3.4 times ($P < 0.0001$). In children prevalence of diabetic complications reduced as follows, by 7.9 times for retinopathy ($P < 0.0001$), by 1.6 times for neuropathy ($P < 0.0001$), by four times for diabetic nephropathy with ESRD ($P < 0.0001$), and by 2.3 times for diabetic hairopathy ($P < 0.001$). Occurrence of cataract has the tendency to reduce. **Conclusion:** The analysis of screening results showed efficiency of the National Register and a correct choice of strategy and tactics on optimization of quality of care for children with type 1 DM in Uzbekistan.

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Prevalence of Impaired Glucose Tolerance and Insulin Resistance in a Sample of the 6- to 16-Year-Old Overweight or Obese Pediatric Population

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Background: Prevalence of obesity and its complications including type 2 diabetes mellitus, impaired glucose tolerance and insulin resistance have been increased among children and adolescents during recent decades. **Objective and hypotheses:** The aim of this study was to determine the prevalence of impaired glucose tolerance and insulin resistance among overweight or obese children and adolescents. **Method:** This cross sectional

study was conducted in 199 children and adolescents aged between 6 and 16 years with BMI above the 85th percentile for their age and sex referred to the endocrine clinic of Qazvin children hospital during 2012. Physical examination including evaluation of weight, height, BMI was performed. Overweight was defined as a BMI between the 85th and 95th percentiles for children of the same age and sex; obese was defined as a BMI over the 95th percentile for children of the same age and sex. Blood levels of fasting glucose and insulin were measured after an 8 h overnight fast. An oral glucose tolerance test was performed with 1.75 g/kg glucose for all the participants. Participants were characterized as having normal glucose metabolism, impaired fasting glucose, impaired glucose tolerance or diabetes according to American Diabetes Association criteria. Homeostatic model assessment (HOMA) more than three was used to estimate insulin resistance. Data were analyzed using descriptive statistics. **Results:** Mean age was 10.94 ± 2.56 . 17.6 and 82.4% of the participants were obese and overweight, respectively. Prevalence of impaired fasting glucose, impaired glucose tolerance and diabetes were found to be 15.6, 7.5 and 4%, respectively. 51.3% of the participants were insulin resistant. **Conclusion:** High prevalence of insulin resistance indicates the future burden of diabetes and emphasizes the importance of prevention programs in overweight or obese children and adolescents from early age in order to promote their present and future health.

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Differences in Pubertal Development and Anthropometry Between Normal Population and Type 1 Diabetic Child at Debut in Spain

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Background: The deterioration caused DMtipol anthropometric and pubertal development. With intensive treatment, improved HbA1c and less microvascular complications should be similar to normal population. **Objective:** To study the pubertal development in our population with DM1 and final somatometric variables reached in relation to the normal population. **Material and methods:** Retrospective study of DM1A debut from diagnosis to final height. Inclusion: Historical Unit Patients from 1973 to 2000 DMtipol1a. Exclusion: other DM, no final height or V. Tanner Studio and bilateral Student' *t*-test Samples T IBM SPSS 18.0. Comparative longitudinal half somatometry Orbegozo 2004 (OL) to final height. Pubertal development Ferrandez 2002 (DPF). **Results:** 82 cases initially selected (38/82 ♂ – 46%). Average age debut 8.24 ± 4.27 (0.3–15). 16.98 kg/m^2 average BMI (–0.2 SDS) $DS4.27$, mean height of 132 cm. (+0.3 SDS) $DS27.92$. Tanner I.HbA1c debut $DS2.37$ 11.11% (8–15.5), differences ♂ ♀ 10.79 vs 11.87 $P: 0.032$ target height of 171.5 cm. $DS2.1$ with normal population difference $\Delta -2.6 \text{ cm}$ $P 0.01$ and ♀ 159.3 cm. SDS difference for OL 2.3 with $\Delta -2.5 \text{ cm}$ $P: 0.01$. Evolutionary